



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

**REGION IX LABORATORY
1337 S. 46TH STREET
BLDG. 201
RICHMOND, CA 94804-4698**

MEMORANDUM

SUBJECT: Case R00S07, SDG 99308C, 99309A, 99314C, 99316A
Results for Perchlorate Analysis

FROM: *for* Brenda Bettencourt, Director 
EPA Region 9 Laboratory (PMD-2)

TO: Craig Cooper, Remedial Project Manager
Hawaii, Nevada, California Cleanup Section (SFD-7-4)

Attached are the report narrative and results spreadsheet from analysis of samples from the Newmark Superfund site. These data have been reviewed in accordance with EPA Region 9 Laboratory policy. Summary information for the data included in this report is as follows:

SITE/PROJECT:	Newmark
CASE:	R00S07
LABORATORY:	U. S. EPA Region 9 Laboratory
SAMPLE DELIVERY GROUPS:	99308C, 99309A, 99314C, 99316A
ANALYSIS:	Perchlorate (R9 Lab SOP 531)

A full documentation package for these data, including raw data and sample custody documentation, has been prepared and is on file at the Region 9 Laboratory. Please contact Vance Fong of the Quality Assurance Program (PMD-3) to request review and/or validation of the data.

If you have any questions please contact Rich Bauer at (510) 412-2312, or Ken Hendrix at (510) 412-2321.

ATTACHMENT: Analytical Report

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	R00S07
SAMPLE DELIVERY GROUP:	99308C
PROGRAM:	SUPERFUND
DOCUMENT CONTROL #:	ESTW-9B-2763
DATE:	12/03/99
ANALYSIS:	PERCHLORATE

SAMPLE NUMBERS:

<u>SAMPLE ID</u>	<u>LABORATORY SAMPLE ID</u>
50216	AB25404
50217	AB25405
50207	AB25406
50208	AB25407
50210	AB25408
50211	AB25409
50212	AB25410
50220	AB25411
50209	AB25412
50213	AB25413
50214	AB25414
50172	AB25419
50173	AB25420
50174	AB25421
50175	AB25422
50176	AB25423
50177	AB25424
50219	AB25425
50163	AB25426
50164	AB25427

GENERAL COMMENTS

Twenty groundwater samples were received from the Newmark Source OU Superfund project on 11/04/99 and 11/05/99.

The requested analysis was perchlorate (Region 9 Laboratory SOP 531). All samples were analyzed within the required holding times.

SAMPLE RECEIPT AND PRESERVATION

All samples were received at a temperature of 9°C on 11/04/99 and 11/05/99. All custody seals were intact.

QA/QC SUMMARY

No analytes were detected in the blanks associated with this SDG.

All LFM recoveries were within the QC limits.

The RPDs for all duplicates were less than or equal to the 20% QC limit for all analytes where the sample result was greater than or equal to 5 times the quantitation limit. For analytes where the sample result was less than 5 times the quantitation limit the difference between the duplicates was less than the quantitation limit.

All LFB recoveries were within the QC limits.

Questions concerning the data can be answered by Patrick Hirata at (510) 412-2354.

Laboratory Reagent Blanks (LRB)

A laboratory reagent blank is laboratory reagent water or baked sand with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. The laboratory reagent blank is used to determine the level of contamination introduced by the laboratory during analysis.

Laboratory Fortified Matrix and Laboratory Duplicate Analysis

The laboratory fortified matrix spike sample and laboratory duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

Laboratory Fortified Blank (LFB) Analysis

The laboratory fortified blank is laboratory reagent water or baked sand with a known concentration of the analytes of interest added by the laboratory with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. Poor percent recovery (%R) results may indicate inconsistent laboratory technique.

**EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS**

Case Number: R00S07
Site: Newmark Source OU
SDG: 99308C
Date: 12/03/99

Analysis: Perchlorate
Matrix: Water

Station Location	MUNI-102			MUNI-102			MUNI-13			MUNI-14			MUNI-18			MUNI-22		
Sample I.D.	50216			50217			50207			50208			50210			50211		
Lab Sample I.D.	AB25404			AB25405			AB25406			AB25407			AB25408			AB25409		
Date of Collection	11/02/99			11/02/99			11/03/99			11/03/99			11/03/99			11/03/99		
Analyte	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com
Perchlorate (ug/L)	5	U		5	U		5	U		5	U		5	U		5	U	

Com - Comments refer to the corresponding section in the report narrative for each letter.

N/A - Not Applicable.

N/R - Not Required.

Q - Refer to data qualifiers.

U - The parameter was analyzed for, but was not detected; The associated value is the sample detection limit, adjusted for dilution, if any.

J - The associated value is an estimated quantity.

Station Location	MUNI-24			MUNI-104B			MUNI-16			MUNI-24			MUNI-24			MW-129A		
Sample I.D.	50212			50220			50209			50213			50214			50172		
Lab Sample I.D.	AB25410			AB25411			AB25412			AB25413			AB25414			AB25419		
Date of Collection	11/03/99			11/03/99			11/03/99			11/03/99			11/03/99			11/04/99		
Analyte	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com
Perchlorate (ug/L)	5	U		5	U		5	U		5	U		5	U		5	U	

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EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R00S07
 Site: Newmark Source OU
 SDG: 99308C
 Date: 12/03/99

Analysis: Perchlorate
 Matrix: Water

Station Location	MUNI-129B				MUNI-129B				MUNI-129B				MUNI-129C				MW-130A				MUNI-103			
Sample I.D.	50173				50174				50175				50176				50177				50219			
Lab Sample I.D.	AB25420				AB25421				AB25422				AB25423				AB25424				AB25425			
Date of Collection	11/04/99				11/04/99				11/04/99				11/04/99				11/04/99				11/03/99			
Analyte	Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com	
Perchlorate (ug/L)	5	U			5	U			5	U			5	U			5	U			5	U		

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Station Location	MW-11A				MW-11B				N/A				N/A				Quantitation			
Sample I.D.	50163				50164				Reagent Blank				Reagent Blank				Limit			
Lab Sample I.D.	AB25426				AB25427				N/A				N/A				N/A			
Date of Collection	11/03/99				11/03/99				N/A				N/A				N/A			
Analyte	Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com	
Perchlorate (ug/L)	5	U			5	U			5	U			5	U			5			

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USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER: R00S07
SAMPLE DELIVERY GROUP: 99309A
PROGRAM: SUPERFUND
DOCUMENT CONTROL #: ESTW-9B-2764
DATE: 12/08/99
ANALYSIS: PERCHLORATE

SAMPLE NUMBERS:

<u>SAMPLE ID</u>	<u>LABORATORY SAMPLE ID</u>
50165	AB25428
50180	AB25429
50181	AB25430
50182	AB25431
50183	AB25432
50184	AB25433
50185	AB25434
50186	AB25435
50167	AB25437
50168	AB25438
50178	AB25439
50179	AB25440
50169	AB25441
50170	AB25442
50171	AB25443
50203	AB25461
50202	AB25462
50157	AB25463

GENERAL COMMENTS

Eighteen water samples were received from the Newmark Source OU Superfund project on 11/05/99, 11/06/99 and 11/10/99.

The requested analysis was perchlorate (Region 9 Laboratory SOP 531). All samples were analyzed within the required holding times.

SAMPLE RECEIPT AND PRESERVATION

The perchlorate sample bottle labeled 50201 had the same sample location, date and time collected as the sample designated as 50203 on the chain-of-custody and on the associated VOA vials. As per email from the client, the perchlorate sample bottle labeled as 50201 was re-labeled 50203 in the laboratory.

The perchlorate sample bottle marked "MWCOE-02, 50201, 11/9/99, 0825 hours" did not match the chain-of-custody form. The location, date and time match sample 50202 on the chain-of-custody. As per email from the client, the perchlorate sample bottle labeled as 50201 was re-labeled 50202 in the laboratory.

All cooler temperatures exceeded the 2 to 6°C acceptance range at the time of sample receipt. Samples 50203, 50202 and 50157 were received at a temperature of 1°C. All other samples were received at a temperature of 9°C. All custody seals were intact.

QA/QC SUMMARY

No analytes were detected in the blanks associated with this SDG.

No LFM was analyzed for this SDG. Two samples from SDG 99308C (50173 and 50212) were used as QC samples for this project. All LFM recoveries were within the QC limits.

No duplicate was analyzed for this SDG. Two samples from SDG 99308C (50173 and 50212) were used as QC samples for this project. No RPDs were calculated; the samples and duplicates were less than the QL.

All LFB recoveries were within the QC limits.

Questions concerning the data can be answered by Patrick Hirata at (510) 412-2354.

Laboratory Reagent Blanks (LRB)

A laboratory reagent blank is laboratory reagent water or baked sand with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. The laboratory reagent blank is used to determine the level of contamination introduced by the laboratory during analysis.

Laboratory Fortified Matrix and Laboratory Duplicate Analysis

The laboratory fortified matrix spike sample and laboratory duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

Laboratory Fortified Blank (LFB) Analysis

The laboratory fortified blank is laboratory reagent water or baked sand with a known concentration of the analytes of interest added by the laboratory with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. Poor percent recovery (%R) results may indicate inconsistent laboratory technique.

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R00S07
 Site: Newmark Source OU
 SDG: 99309A
 Date: 12/08/99

Analysis: Perchlorate
 Matrix: Water

Station Location	MW11C			MUNI-07B			MUNI-07C			MUNI-9B			MUNI-9C			MUNI-9C		
Sample I.D.	50165			50180			50181			50182			50183			50184		
Lab Sample I.D.	AB25428			AB25429			AB25430			AB25431			AB25432			AB25433		
Date of Collection	11/03/99			11/04/99			11/04/99			11/04/99			11/04/99			11/04/99		
Analyte	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com
Perchlorate (ug/L)	5	U		5	U		5	U		5	U		5	U		5	U	

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N/A - Not Applicable.

N/R - Not Required.

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J - The associated value is an estimated quantity.

Station Location	MUNI-9C			MINI-11C			MW-127A			MW-127B			MW-130B			MW-130C		
Sample I.D.	50185			50186			50167			50168			50178			50179		
Lab Sample I.D.	AB25434			AB25435			AB25437			AB25438			AB25439			AB25440		
Date of Collection	11/04/99			11/04/99			11/05/99			11/05/99			11/05/99			11/05/99		
Analyte	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com
Perchlorate (ug/L)	5	U		5	U		5	U		5	U		5	U		5	U	

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EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R00S07
Site: Newmark Source OU
SDG: 99309A
Date: 12/08/99

Analysis: Perchlorate
Matrix: Water

Station Location	MW-128A			MW-128B			MW-128C			MWCOE-03			MWCOE-02			MW08B		
Sample I.D.	50169			50170			50171			50203			50202			50157		
Lab Sample I.D.	AB25441			AB25442			AB25443			AB25461			AB25462			AB25463		
Date of Collection	11/05/99			11/05/99			11/05/99			11/08/99			11/09/99			11/09/99		
Analyte	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com
Perchlorate (ug/L)	5 U			5 U			5 U			5 U			5 U			5 U		

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Station Location	N/A			N/A			Quantitation
Sample I.D.	Reagent Blank			Reagent Blank			Limit
Lab Sample I.D.	N/A			N/A			N/A
Date of Collection	N/A			N/A			N/A
Analyte	Result	Q	Com	Result	Q	Com	Result
Perchlorate (ug/L)	5 U			5 U			5

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J - The associated value is an estimated quantity.

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	R00S07
SAMPLE DELIVERY GROUP:	99314C
PROGRAM:	SUPERFUND
DOCUMENT CONTROL #:	ESTW-9B-2771
DATE:	12/09/99
ANALYSIS:	PERCHLORATE

SAMPLE NUMBERS:

<u>SAMPLE ID</u>	<u>LABORATORY SAMPLE ID</u>
50156	AB25464
50154	AB25465
50155	AB25466
50142	AB25467
50143	AB25468
50158	AB25470
50159	AB25471
50152	AB25472
50150	AB25473
50151	AB25474
50153	AB25475
50144	AB25476
50145	AB25477
50148	AB25478
50149	AB25479
50187	AB25495
50194	AB25496
50191	AB25497
50200	AB25498

GENERAL COMMENTS

Nineteen water samples were received from the Newmark Source OU Superfund project on 11/10/99 and 11/12/99.

The requested analysis was perchlorate (Region 9 Laboratory SOP 531). All samples were analyzed within the required holding times.

SAMPLE RECEIPT AND PRESERVATION

Samples 50156, 50154, 50155, 50142, 50143, 50158, 50159, 50152, 50150, 50151, 50153, 50144, 50145, 50148 and 50149 were received at a temperature of 1°C. All custody seals were intact.

QA/QC SUMMARY

No analyte was detected in the blank associated with this SDG.

The LFM recovery was within the QC limits.

The RPD for the duplicate was less than or equal to the 20% QC limit for perchlorate where the sample result was greater than or equal to 5 times the quantitation limit. If the sample result was less than 5 times the quantitation limit the difference between the duplicates was less than the quantitation limit.

The LFB recovery was within the QC limits.

Questions concerning the data can be answered by Patrick Hirata at (510) 412-2354.

Laboratory Reagent Blanks (LRB)

A laboratory reagent blank is laboratory reagent water or baked sand with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. The laboratory reagent blank is used to determine the level of contamination introduced by the laboratory during analysis.

Laboratory Fortified Matrix and Laboratory Duplicate Analysis

The laboratory fortified matrix spike sample and laboratory duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

Laboratory Fortified Blank (LFB) Analysis

The laboratory fortified blank is laboratory reagent water or baked sand with a known concentration of the analytes of interest added by the laboratory with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. Poor percent recovery (%R) results may indicate inconsistent laboratory technique.

EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R00S07
Site: Newmark Source OU
SDG: 99314C
Date: 12/09/99

Analysis: Perchlorate
Matrix: Water

Station Location	MW08A				MW07A				MW07B				MW02A				MW02B				MW09A			
Sample I.D.	50156				50154				50155				50142				50143				50158			
Lab Sample I.D.	AB25464				AB25465				AB25466				AB25467				AB25468				AB25470			
Date of Collection	11/09/99				11/09/99				11/09/99				11/09/99				11/09/99				11/08/99			
Analyte	Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com	
Perchlorate (ug/L)	5	U			5	U			5	U			5	U			5	U			5	U		

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N/R - Not Required.

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Station Location	MW09B				MW06A				MW06A				MW06A				MW06B				MW03A			
Sample I.D.	50159				50152				50150				50151				50153				50144			
Lab Sample I.D.	AB25471				AB25472				AB25473				AB25474				AB25475				AB25476			
Date of Collection	11/08/99				11/09/99				11/09/99				11/09/99				11/09/99				11/09/99			
Analyte	Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com		Result	Q	Com	
Perchlorate (ug/L)	5	U			5	U			5	U			5	U			5	U			5	U		

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EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS

Case Number: R00S07
Site: Newmark Source OU
SDG: 99314C
Date: 12/09/99

Analysis: Perchlorate
Matrix: Water

Station Location	MW03B			MW05A			MW05B			CJ-3			CJ-15			CJ-12		
Sample I.D.	50145			50148			50149			50187			50194			50191		
Lab Sample I.D.	AB25477			AB25478			AB25479			AB25495			AB25496			AB25497		
Date of Collection	11/09/99			11/09/99			11/09/99			11/10/99			11/10/99			11/11/99		
Analyte	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com
Perchlorate (ug/L)	5	U		5	U		5	U		5	U		5	U		5	U	

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Station Location	CJ-11			N/A			N/A		
Sample I.D.	50200			Reagent Blank			Quant.Limit		
Lab Sample I.D.	AB25498			N/A			N/A		
Date of Collection	11/11/99			N/A			N/A		
Analyte	Result	Q	Com	Result	Q	Com	Result		
Perchlorate (ug/L)	5	U		5	U		5		

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J - The associated value is an estimated quantity.

USEPA REGION 9 LABORATORY
REPORT NARRATIVE

CASE NUMBER:	R00S07
SAMPLE DELIVERY GROUP:	99316A
PROGRAM:	SUPERFUND
DOCUMENT CONTROL #:	ESTW-9B-2772
DATE:	12/09/99
ANALYSIS:	PERCHLORATE

SAMPLE NUMBERS:

<u>SAMPLE ID</u>	<u>LABORATORY SAMPLE ID</u>
50190	AB25499
50192	AB25500
50195	AB25501
A50198	AB25502
50196	AB25503
50197	AB25504
50136	AB25505
50137	AB25506
50146	AB25507
50147	AB25508
50193	AB25509
50188	AB25510
50189	AB25511

GENERAL COMMENTS

Thirteen water samples were received from the Newmark Source OU Superfund project on 11/12/99.

The requested analysis was perchlorate (Region 9 Laboratory SOP 531). All samples were analyzed within the required holding times.

SAMPLE RECEIPT AND PRESERVATION

No shipping or preservation issues were encountered.

QA/QC SUMMARY

No perchlorate was detected in the blank associated with this SDG.

The LFM recovery was within the QC limits.

No RPD was calculated; the sample and duplicate were less than the QL.

The LFB recovery was within the QC limits.

Questions concerning the data can be answered by Patrick Hirata at (510) 412-2354.

Laboratory Reagent Blanks (LRB)

A laboratory reagent blank is laboratory reagent water or baked sand with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. The laboratory reagent blank is used to determine the level of contamination introduced by the laboratory during analysis.

Laboratory Fortified Matrix and Laboratory Duplicate Analysis

The laboratory fortified matrix spike sample and laboratory duplicate analyses provide information about the effect of the sample matrix on sample preparation and measurement. Poor percent recovery (%R) results and large relative percent difference (RPD) between duplicates may indicate inconsistent laboratory technique, sample nonhomogeneity in soils, or matrix effects which may interfere with analysis.

Laboratory Fortified Blank (LFB) Analysis

The laboratory fortified blank is laboratory reagent water or baked sand with a known concentration of the analytes of interest added by the laboratory with all reagents added and carried through the same sample preparation and analytical procedures as the field samples. Poor percent recovery (%R) results may indicate inconsistent laboratory technique.

**EPA REGION 9 LABORATORY-RICHMOND, CA
SUMMARY OF ANALYTICAL RESULTS**

Case Number: R00S07
Site: Newmark Source OU
SDG: 99316A
Date: 12/09/99

Analysis: Perchlorate
Matrix: Water

Station Location	CJ-11			CJ-13			CJ-16			CJ-17			CJ-17			CJ-17		
Sample I.D.	50190			50192			50195			A50198			50196			50197		
Lab Sample I.D.	AB25499			AB25500			AB25501			AB25502			AB25503			AB25504		
Date of Collection	11/11/99			11/11/99			11/11/99			11/11/99			11/11/99			11/11/99		
Analyte	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com
Perchlorate (ug/L)	5	U		5	U		5	U		5	U		5	U		5	U	

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N/A - Not Applicable.

N/R - Not Required.

Q - Refer to data qualifiers.

U - The parameter was analyzed for, but was not detected; The associated value is the sample detection limit, adjusted for dilution, if any.

J - The associated value is an estimated quantity.

Station Location	MW-01E			MW-01F			MW04A			MW04B			CJ-14			CJ-8		
Sample I.D.	50136			50137			50146			50147			50193			50188		
Lab Sample I.D.	AB25505			AB25506			AB25507			AB25508			AB25509			AB25510		
Date of Collection	11/10/99			11/10/99			11/09/99			11/09/99			11/11/99			11/11/99		
Analyte	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com	Result	Q	Com
Perchlorate (ug/L)	5	U		5	U		5	U		5	U		5	U		5	U	

Com - Comments refer to the corresponding section in the report narrative for each letter.

N/A - Not Applicable.

N/R - Not Required.

Q - Refer to data qualifiers.

U - The parameter was analyzed for, but was not detected; The associated value is the sample detection limit, adjusted for dilution, if any.

J - The associated value is an estimated quantity.

Station Location	CJ-10			N/A			Quantitation
Sample I.D.	50189			Reagent Blank			Limit
Lab Sample I.D.	AB25511			N/A			N/A
Date of Collection	11/11/99			N/A			N/A
Analyte	Result	Q	Com	Result	Q	Com	Result
Perchlorate (ug/L)	5	U		5	U		5

Com - Comments refer to the corresponding section in the report narrative for each letter.

N/A - Not Applicable.

N/R - Not Required.

Q - Refer to data qualifiers.

U - The parameter was analyzed for, but was not detected; The associated value is the sample detection limit, adjusted for dilution, if any.

J - The associated value is an estimated quantity.